# *“INJURY PREVALENCE IN PHYSICAL EDUCATION STUDENT OF MAHARASHTRA AND OTHER STATE:*

# *A COMPARATIVE STUDY”*

*A*

*SYNOPSIS SUBMITTED TO*

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*IN*

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स्वामी रामानंद तीर्थ मराठवाडा विद्यापीठ, नांदेड.

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CHAPTER I

# INTRODUCTION

## ***Background of the study***

Daily physical education class may provide the opportunity for students to meet healthy people to guide for physical activity. Many schools districts, however, are reducing physical education requirements and some are eliminating programs. The percentage of schools/college requiring physical education in each grade decreases from approximately 50% in grade Physical education classes are being replaced with other classes in an effort to increase the students' academic achievement as measured by standardized tests. Despite this trend, no clear evidence indicates that academic achievement will improve if physical education classes are cut. But it is not fact it is only misunderstanding and mis concept among general line administrators. (Ahamed Y, et, al 2007)

Now a days Physical education classes provide an opportunity for students to be physically active during the school days. School-based physical education programme has many benefits, including increasing physical activity and improving physical fitness and muscular endurance. Increasing physical activity through physical education is also a proposed public health strategy to reduce childhood obesity. Although there has been no evidence to date to show that maintaining or increasing time in physical education class negatively affects academic achievement in other subjects, there is concern that physical education classes could take time away from those subjects. More information is needed to address this concern and support public health objectives to maintain or expand physical education programmes. (Cameron M, et, al, 2000)

Davice CL examined the influence of physical education in US elementary schools on direct measures of academic achievement in mathematics and reading from kindergarten through fifth grade. Our study will be unique in at least ways: first, the measurement of academic

achievement was a standardized test administered at time points. Second, we examined the association between physical education and academic achievement with a prospective cohort design. Finally, we examined participation in physical education as it existed in a representative sample of US students entering kindergarten in fall 1998 who were followed through spring 2004.( Davis CL, et, al, 2007)

The time allocated to physical education in the majority of western schools has declined over the last decade, with a consequent increase in time allocation for other academic subjects. Budget restraints and pressure to meet academic targets have caused schools to cut back on physical education, with the aim of improving academic performance. There was even a perception amongst key decision makers that time spent on non academic pursuits might impact negatively on academic achievement. However, advocates of school-based physical activity have suggested that physical education, physical activity and sport may contribute to the enhancement of academic performance either directly or through the achievement of wider social outcomes which, in turn, may impact on academic achievement. (Hilman et.al, 2008)

One area of recent current interest has been whether or not participation in sport and other forms of physical activity can enhance cognitive function, including memory and concentration. Large, all encompassing reviews examining this relationship between physical activity and learning behaviour have suggested that school children may indeed derive cognitive benefits from participation in physical activity including sports. Associated with these cognitive benefits, it has been suggested that physical education, physical activity and sport may enhance classroom behaviour contributing to the enhanced academic achievement of pupils. (Mahar et,al., 2006). Furthermore, it has been suggested that physical education, physical activity and sport have the potential to impact on school attendance which in turn could impact on academic achievement but one the problem of the physical education students are to more suffer injuries due to engage in various sporting and physical activities.

**Statement of the Problem**

In the light of the above, the investigators become interested in determining the possible risk factors involved in physical education student's injuries. The problem is state as "**Injury Prevalence In Physical Education Student of Maharashtra and other state: A Comparative study"** take up to assess the level of familiarity of these subjects among physical education

students. It is further aim to help the Sports Scientist and Administrators to enable them to for mutate a better procedure to minimize the incidence of injuries to physical education students.

**Objectives of The Study**

1. The primary objectives of the research is to compare of percentage of different injuries in to physical education students of Maharashtra and other state and to determine the nature, sites, causes, period and the possible risk factors involve in injuries, injuries mechanism severity and psychological factors will be involved.

2. To suggest the remedial measures for different injuries of physical education students of Maharashtra and other state in particular and sports related injuries in general of Athletes.

**Scope of the study**

This study includes the following scope:

1. Scope in the field of prevention of sports related injuries

2. Scope in the field of treatment of sports related injuries

3. Scope in the field of rehabilitation of sports related injuries.

4. A statistical overview of all forms of sports injuries , in order to better evaluate the scale of such injuries while identifying gaps in data collection and formulating proposals for assessing the extent of the problem;

5. The causes of sports related injuries, including its root causes and other contributing factors.

6. The medium-term and long-term consequences of sports injuries.

7. The health, social and economic costs of sports injuries.

***Hypothesis:***

- Researcher hypotheses that the percentage of all types of injuries will be more in Maharashtra students than other state students

***Delimitations of the study.***

1. The present study will be delimited to only physical education students.

2. The study will be delimited to the physical education students of 20-26 years of age.

3. The study will be delimited to injuries sustained due to any sporting activity in one year of period.

4. The study will be delimited to 400 physical education students of Maharashtra and other state

5. This study will be delimited to only physical education students of Maharashtra and other state who will taken admission in B.P.Ed. and M.P.Ed. Colleges of Maharashtra .

**Limitations of the study**

1. Since the physical education students belonged to different sports activity background this may be considered as the limitation of the study.

2. The availability of the sophisticated instrument which may effects the results may also be considered as the limitation of the study.

3. Since the physical education students belonged to different level of performance, hence the prior experience of the players may be considered as a limitation of the study.

**Definition and Explanation of Important Technical Terms:**

**Definition of physical education**

**Physical education** is an educational course related to the physique of the human body, taken during primary and secondary education that encourages psychomotor learning in a play or movement exploration setting to promote health.

**Definition of Injury**

Injury may be defined as any physical complaint by the athletes or an athletic injuries is defined as a disruption in tissue continuity that results from athletic or sports related activity, causing a cessation of participation or restriction of usual activity.

**Definition of physical education students :**

The students taken admission for the two or four years degree programme called as M. P. Ed., B.P.Ed. or B.P.E. in different physical education college affiliated to the University .

**Definition of physical education college :**

The programme of Bachelor / Master of Physical Education (B.P.E. , B.P.Ed . M. P. Ed) is a Bachelor / Master degree affiliated to the Universities. The degree can include topics such as sport science, coaching, anatomy, physiology history of physical education and outdoor education.

## CHAPTER-II

## REVIEW OF RELATED LITERATUR

Review of related literature is very important and it plays a vital role to understand the problem thoroughly. In the present chapter the investigator is made an attempt to report the literature based upon the different injuries related to the athletes and physical education students. A study of relevant literature is an essential step to get a full picture of what has been done and said abroad and in one's own country with regard to the problem.

**Jadhav et al. (2010)** Studied A Survey of Injuries Prevalence in Varsity Volleyball Players The primary objectives of the study was to quality the injuries of varsity volleyball players and to determine the nature, location, causes, outcome of injuries and the possible risk factors involved. Information on injuries was collected through a questionnaire from members of twelve Indian varsity teams participating in all India Inter Varsity tournament held in Dr. Babasaheb Ambedkar Marathwada University, Aurangabad Maharashtra in December 2007. The age range of the players was 18 to 25 years. 58% of players were in the age range of 22 to 25 years. The volleyball players were asked to recall injuries over the preceding one year period. A total of 121 out of 144 volleyball players sustained injuries. One hundred seventy eight injuries were recorded of which 36% injuries were of recurrent nature. Lower limb injuries were found to be predominant; the ankle and knee being the most commonly injured anatomical location. Most injuries involved soft tissue and related to the muscle and tendon. Most common circumstances giving rise to injuries were spiking (33.70%), blocking (24.15%), diving (17.41%) and setting (11.23%). It was further observed that volleyball players directly involved in attack or defense were found to be more susceptible to injury. Muscle injuries were observed to be the most common type. Spiking is the most common cause of injuries. The results of the research provide a useful insight into the nature, incidence and sites of injuries in varsity level volleyball players.

**Pagare.S (2009)** compared of occurrence of specific injuries to footballers at low and high level of performance ,The mean (SD) age of the low level of performance of football players was 19.30 (1.44) Years, their weight was 51.25 (6.78) Kg., their height was 168.54 (8.33) Cm., their

training was 3.25 (1.02) days (in week), their training duration was 1.98 (0.42) hours and competition was 6.74 (2.33) in one year. Similarly, It means (SD) age of high level of performance of football players was 21.08 (1.78) years, their weight was 62.44(8.98) Kg., their height was 170.52 (8.33) Cm., duration of their training period was 4.91 (1.21) days (in week), a duration their training was 2.55 (0.62) hours and competition was 10.06 (3.78) in one year. Significant differences between low and high level football players were found with regard to occurrence of specific injuries (t=2.36, p. <.05). These results show that the high level of performance of football players occurred more injuries as compared to low level of performance of football players. Significant injuries difference was found out in the low and high level of performance of football players (t= 5.29, p<.01). These results show that high level of performance of football players having more occurrences of injuries as compared to the low level of performance of football players due to ground condition. no significant differences of injuries were found (t=.61). When the difference of injuries considered for different field position separately, the no significant differences between low and high level of performance of football players were found Goalkeeper (t=1.81), Left half back (t= .5),Left Full back (t=.16), Center half (t=.28) and Center forward (t= .83). These results show that no significant differences were found in low and high level of performance of football players in different field position. no significant differences in occurrence of specific injuries between low and high level of performance of football players belonging to different game. no significant differences were found for combined sample of different sports (t= .5). When the different games separately, no significant difference were found on occurrence of specific injuries in case of players in Cricket (t=.26), Gymnastics (t=.48), Hockey (t=.80), Basketball (t=.35), and Badminton (t=.68), football players belonging to first half and second half no significant different injuries were found (t=2.54 P <.01) as well as for the two half separately e.g. first half (t=1.44) and second half (t =1.87), no significant differences between low and high level of performance of football players were found between first half and second half. With respect to location as no significant injuries were found for combined sample (t=1.85), as well as six location, namely Hamstring (t =.22), and foot (t=1.12), Knee (t=.83), Ankle (t =1.19), Groin (t=.50), Shoulder (t=.91). no significant differences in occurrence of specific injuries between competition and training period to football players at low and high level of performance. The results of the study rejected this hypothesis with regard to occurrence of specific injuries during training as well as competition,

as significant differences of injuries were found for the combined sample (t =2.46, P<.05) as well as Training (t =3.04, P<.01) the results of this study shows that high level of performance of football players were found to have got more injuries as compared to low level of performance of football players. In case of competition no significant difference was found (t=1.40). no significant difference in occurrence of specific injuries between lower and higher extremities to football players at low and high level of performance. But, on the basis of the results of this study, did support to the eighth hypothesis of the study, because for the combined sample of lower and higher extremities to football players, no significant difference of injuries were found (t=2.00) as well as for the upper and lower extremities respectively (t=.66), and (t=.94) no significant difference between upper and lower extremities of football players were found. Insignificant difference between low and high level of performance of football players were found with regard to side (t=1.66).

**Sinku S.K. (2008)** investigated was to compare the occurrence of injuries to footballers at low and high level of achievement with regard to various stages viz, ground conditions, location, field positions, training and competition. 98 injuries were observed, 40 related to the low achievement and 58 to the high achievement groups of footballers. A statistical significant differences of occurrence of injury between two group of footballers was found ( t= 2.58, P <.01). Occurrence of injuries due to field conditions and position of playing were also found (t=3.11, P <.05) to be significantly difference in the two achievement groups. No significant differences of injuries occurrence was found between two groups of footballers with respect to location. Statistical Significant differences of occurrence of injuries were observed between two groups footballers with respect to the competition and training periods (t=2.46, P<.05) to footballers. The high level of achievement footballers revealed more injuries as compared to low level of achievement footballers. Those football players who are directly involved in offence or defense were found to have more injured. Finally, lower limb injuries were found to be predominated.

**Cromwell, f. j. Walsh. Gromely (2000)** in a six month period by the means of a questionnaire on elite gaelic footballers investigated that ninety five injuries were recorded giving an incidence rate of 1.78 injuries per subject per year, of which 35% of injuries were sustained during training

session. A total 88 out at 107 subject sustained injuries over the study period. Lower extremities injuries predominated (77%), the ankle being the most commonly anatomic site. Most injuries were soft tissue in nature; muscle, 33% Ligament 32%, tendon, 16%. The most common situations giving rise to injuries were collisions (22%) and twist turn (19%) foul play only accounted for about 6% of injuries.

**Watking J & Brain N. Green (1992)** Investigated injuries sustained in male volleyball players in the first division of the Scottish National league during the first 1989-1990 seasons were investigated by means of questionnaire survey. Forty six injuries were reported representing an incidence at 0.53 injuries per player. Damage to muscles, tendons and ligaments accounted for most of the injuries. The cause of the most injuries were blocking and spiking. In 74% of case, the injured players were able to resume training and playing within 2 weeks before the occurrence of injuries. In 10% of the injured players were unable to train or play for 7-14 weeks.

**White side J, Andrews J (1989)** reported the most common problem of the elbow; 7% of all sports injuries; peak age 40 to 50 years, rare in children; 10 times more frequent than medial epicondylitis; occurs in up to 75% of club tennis players, 50% of expert female and 30% of expert male players.

***CHAPTER-III***

***METHODOLOGY***

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**Data collection and Analysis:**

The aim of the study will find out the injuries to physical education students at various stages .This chapter explain the methodological details will be to implement the study. Specifically, presented here are the general perspective and context of the study, an overview of the participants, a description of the procedures used in data collection, and an explanation of data analysis.

**Sampling frame:**

The sampling frame will be included physical education students their aged 21 to 26 years.

**Sampling method and Sample Size:**

The method of sample will be purposive – A non-random method of sampling design for physical education students with a specific purpose. Total 400 physical education students from different colleges of Maharashtra will be selected as sample size for the study.

**Source of Data:**

The study depends mainly on primary source of data. The data will be collected through respondents in the form of Questionnaires from 400 physical education students of different colleges, investigator contacting physical education students personally and some cases at the venue of Inter-varsity tournaments. The physical education students require filling out a questionnaire for each injury for one year. In collecting the data, the researcher Follow to ethical guidelines, principles, and standards for studies conducted with human beings .Instructions will be given to the physical education students before filling these questionnaires by the researcher.

**Demographic information:**

The data will be collected through respondents in the form of different descriptive tests. The demographic information about, age, height, weight etc. will be obtained before seeking responses.

**Universe of the study:**

The Universe of the study will be physical education students who have been participating in different tournaments such as State, District and varsity of Maharashtra.

**Target population**

The present study determines the injuries to physical education students. The data will be collected with the help of questionnaires made by Cromwell, and Gromley (2000) and researcher modified by the questionnaire and found out the test-retest reliability. The respondent will be needed to filled up the questionnaire for each injury for one year. The researcher will collect data from 400 physical education students but after screening all physical education students included in this study. The information of injuries will be collect from 400 physical education students.

**Research Design**

The design in a research study refers to "the researcher's overall plan for answering the researcher's question or testing the research hypotheses". This study involves a cross sectional survey of physical education students in a non-experimental, retrospective design. Retrospective studies generally related to form of questionnaire and ask respondent to recall injury that occurred in a specific period. This explores and measures the injuries prevalence in physical education students. This study aims to determine the Injuries among physical education students who are playing in the different game and may help full to reduce injuries and enhance performance physical education students particular and athletes in general.

***Procedure of the test:***-

The modified questionnaires will be given physical education students personally and some cases contacting physical education students at the venue of inter collegiate and University tournament will be held at different places. Instructions will be given to the physical education students before filling these questionnaires by the researcher.

***Tools of the Study:-***

For the present study, modified questionnaires made by the Cromwell, Gromely (2000) for football players were utilized after the modification of these questionnaires to use for physical education students and the test -retest reliability was found out 0.94 by the researcher. The questionnaires is divided by two parts. A and B part consisted of questions of the morphological characteristics of the physical education students, with the details of height, educational qualification birth order age, weight, and height training duration, weekly training , warm up period, no. of completion in one year, any sporting activity participated more than two hours in a week, feeling before completion and feeling before practice etc. Number of competition, feeling before training and competition were takes into view. Finally, the respondent was asked to indicate according to Yes/No choice

***Collection of data:-***

Data will be collected individually through a questionnaire from 400 physical education students of different colleges of B.P.Ed. and M.P.Ed. in Maharashtra separately, investigator contacting physical education students personally and some cases at the venue of inter collegiate and University tournament will be held at different places.

***Data processing:***

Data processing play very significant role in the interpretation of numerical data obtained from individuals by giving numerical expressions to the relationships and the variations with respect to different aspects. The collected data will be analyzed as a whole and fragments .The data will be checked for accuracy and completeness and will coded and put up into the SPSS Descriptive statistics for all studied variables, percentage, will be considered statistically technique throughout the study.

**Proposed work Plan/ Formulation and Structure of Study:**

| **1st Year** | **Plan** |
|---|---|
| | Literature Collection |
| | Submission of Progress Report |
| | Pilot study |

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|---|---|
| | Submission of Progress Report |
| | Start experimental test |
| **2nd Year** | Detail study |
| | Data Collection, |
| | Compilation of data |
| | Preparation of Research Paper |
| | Submission of Progress Report |
| | Submission of data |
| **3rd Year** | Use of SPSS Software |
| | Preparation of Graphs |
| | Data Interpretation |
| | Final Compilation of Data |
| | Preparation of Research Paper & Communicating it for Publication |
| | Report Writing |
| | Submission of Final Report |

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